ABSTRACT OF THE DISCLOSURE

[0023] A technique of reconstructing a high resolution image from at least one image sequence of temporally related high and low resolution image frames wherein each of said high resolution image frames includes a low spatial frequency component and a high spatial frequency component is described. The high-resolution image reconstruction technique uses spatial interpolation to generate a low spatial frequency component from a low-resolution image frame of the image sequence. The technique is adapted to generate a high spatial frequency component from at least one high resolution image frame of the image sequence which is closely related to the low resolution image frame, and to remap the high spatial frequency component to a motion-compensated high spatial frequency component estimate of the low resolution image frame. The motion-compensated high spatial frequency component estimate is added to the generated low spatial frequency component to form a reconstructed high-resolution image of the low-resolution image frame.